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U.S. Department of the Interior • U.S. Geological Survey

# MINERAL INDUSTRY SURVEYS

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## MANGANESE IN NOVEMBER 1996

In November, reported consumption of manganese ore containing 35% or more manganese, exclusive of that at iron and steel plants, was 39,500 metric tons, which was an increase of about 16% over that of the previous month, according to the U.S. Geological Survey. This brought the revised year to date total to 379,000 tons. These figures increase to 44,000 and 429,000 when estimates for annual respondents are added on the basis of 1994 data. Corresponding industry stocks of ore at the end of the month were estimated as 300,000 tons, which includes an estimate for annual respondents based on 1994 data. This was an increase of approximately 6% in comparison with the corresponding figure for stocks at the end of October. (Data for the most recent 13 months are graphed on page 2.)

This report contains data on domestic consumption and stocks of manganese ferroalloys and metals for the July through September quarter of 1996 (table 8).

October trade data appearing in this report were placed on FaxBack in preliminary form as of December 30, 1996. The FaxBack document number for these preliminary tables was 420210.

Foreign trade data for November will appear in a subsequent report. The data tabulated in this report indicated for October that the quantity of manganese imported as ore was the greatest for any month prior to at least 1983, principally because of large imports from Australia and Gabon.

The Defense Logistics Agency (DLA), U.S. Department of Defense, reported for November three cash disposals from the National Defense Stockpile. One was under DLA-ORES-071 and was for 4,990 tons of natural battery-grade manganese ore, all to Eveready Battery Co., Westlake, OH. The other two were for electrolytic manganese metal under DLA-MET-101 and consisted of 308 tons to ATI Alloys Inc., McKees Rocks, PA, and 454 tons to Elkem Metals Co., Marietta, OH.

### Note

Early availability of foreign trade statistics via FaxBack: The

TABLE 1  
SELECTED U.S. FOREIGN TRADE IN MANGANESE 1/

(Metric tons, manganese content) 2/

	Imports for consumption			Exports		
	Ore and dioxide	Ferroalloy and metal	Total	Ore	Ferroalloy and metal	Total
1995:						
October	7,450	29,200	36,600	905	1,950	2,860
January-October	130,000	365,000	495,000	6,830	16,900	23,700
1996:						
January	8,860 3/	47,100 3/	56,000	386	1,540	1,930
February	1,410 3/	36,200 3/	37,600	1,620	1,670	3,290
March	14,400 3/	46,900 3/	61,300	435	1,610	2,050
April	32,500	61,400 3/	93,900	1,220	1,760	2,980
May	20,400 3/	46,800	67,200	2,240	1,630	3,870
June	26,300 3/	45,000 3/	71,300	2,550	1,230	3,780
July	18,100 3/	19,500	37,700	1,210	841	2,050
August	7,700 3/	55,500 3/	63,200	2,080	1,210	3,290
September	5,030 3/	33,400 3/	38,400	1,300	1,110	2,410
October	51,500 3/	34,200	85,700	912	1,280	2,190
Total	186,000	426,000	612,000	14,000	13,900	27,800

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ As reported except as estimated for imports of manganese dioxide and manganese waste and scrap and for exports from gross weights.

3/ All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census.

TABLE 2  
U.S. IMPORTS FOR CONSUMPTION OF SILICOMANGANESE IN OCTOBER 1996 1/

(Metric tons)

Source	Gross weight	Mn content	Customs value	Year to date		
				Gross weight	Mn content	Customs value
Argentina	--	--	--	7,490	4,870	\$4,910,000
Australia	4,690	3,170	\$2,200,000	35,500	23,800	22,800,000
France	--	--	--	20,900	13,800	11,100,000
Georgia	--	--	--	1,260	884	701,000
India	5,780	3,990	2,850,000	43,100	28,300	25,000,000
Kazakstan	--	--	--	4,000	2,290	2,300,000
Macedonia	--	--	--	11,000	7,460	4,910,000
Mexico	1,500	983	713,000	20,100	13,100	11,700,000
Norway	--	--	--	7,340	4,450	7,040,000
Poland	--	--	--	3,040	2,100	2,050,000
Romania	--	--	--	12,400	8,290	6,790,000
Russia	2,510	1,150	1,260,000	3,710	1,930	1,850,000
South Africa	12,600	8,390	6,830,000	78,200	52,900	47,100,000
Spain	--	--	--	1,800	1,130	1,720,000
Venezuela	2,350	1,090	1,120,000	18,000	11,300	10,900,000
Total	29,400	18,800	15,000,000	268,000	177,000	161,000,000
Total, general imports	29,400	18,800	15,000,000	270,000	178,000	162,000,000

1/ Data are rounded to three significant digits; may not add to totals shown.

Source: Bureau of the Census.

TABLE 3  
U.S. IMPORTS FOR CONSUMPTION OF FERROMANGANESE IN OCTOBER 1996 1/

(Metric tons)

Source	Gross weight	Mn content	Customs value	Year to date		
				Gross weight	Mn content	Customs value
Low carbon:						
Bangladesh	--	--	--	28	24	\$16,700
Belgium	--	--	--	33	27	19,500
Brazil	--	--	--	20	17	39,000
Canada	--	--	--	42	34	53,000
Italy	533	480	\$869,000	4,690	4,200	7,600,000
Japan	--	--	--	2,380	1,990	2,750,000
Norway	--	--	--	1,070	883	1,240,000
South Africa	80	74	133,000	1,920	1,760	3,330,000
Total, low carbon	612	554	1,000,000	10,200	8,940	15,000,000
Total, general imports of low carbon	612	554	1,000,000	10,200	8,960	15,100,000
Medium carbon, 1%-2% C:						
Brazil	--	--	--	3,890	3,120	3,320,000
China	--	--	--	10,500	8,420	8,300,000
France	--	--	--	4,200	3,430	3,280,000
Japan	--	--	--	22,100	17,800	17,600,000
Mexico	1,950	1,570	1,510,000	19,600	15,700	16,000,000
Norway	--	--	--	2,540	2,080	2,060,000
South Africa	126	98	113,000	3,990	3,200	3,480,000
Total, m.c., 1%-2% C	2,080	1,670	1,620,000	66,800	53,800	54,000,000
Total, general imports of m.c., 1%-2% C	2,080	1,670	1,620,000	66,800	53,800	54,000,000
High carbon:						
Australia	9,240	7,040	3,750,000	32,400	24,400	13,200,000
Brazil	--	--	--	22,000	16,500	9,180,000
France	--	--	--	73,800	57,900	34,500,000
Mexico	--	--	--	6	5	3,650
Norway	--	--	--	56	45	66,500
South Africa	6,620	5,170	2,970,000	101,000	79,100	45,800,000
Total, high carbon	15,900	12,200	6,720,000	230,000	178,000	103,000,000
Total, general imports of high carbon	15,900	12,200	6,720,000	230,000	178,000	103,000,000
Grand total	18,500	14,400	9,340,000	307,000	241,000	172,000,000
Grand total, general imports	18,500	14,400	9,340,000	307,000	241,000	172,000,000

1/ Data are rounded to three significant digits; may not add to totals shown.

Source: Bureau of the Census.

TABLE 4  
U.S. IMPORTS 1/ OF MANGANESE ORE (20% OR MORE MN) IN OCTOBER 1996 2/

(Metric tons)

Source	20% - 47% Mn		47% or more Mn		Total	
	Gross weight	Mn content	Gross weight	Mn content	Gross weight	Mn content
Australia	--	--	27,500	14,400	27,500	14,400
Belgium	--	--	9 3/	8 3/	9	8
Gabon	--	--	57,600	29,100	57,600	29,100
Mexico	17,400	6,440	330 3/	226 3/	17,700	6,670
Total	17,400	6,440	85,500	43,800	103,000	50,200
Year to date:						
Australia	--	--	96,000	48,900	96,000	48,900
Belgium	--	--	9	8	9	8
Brazil	18,700	4,640	--	--	18,700	4,640
Gabon	--	--	209,000	89,200	209,000	89,200
Mexico	40,400	15,000	1,930	1,290	42,300	16,200
South Africa	--	--	27,000	12,900	27,000	12,900
United Kingdom	--	--	60	52	60	52
Total	59,000	19,600	334,000	152,000	393,000	172,000

1/ Quantities for general imports and imports for consumption are identical.

2/ Data are rounded to three significant digits; may not add to totals shown.

3/ All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census.

TABLE 5  
U.S. IMPORTS FOR CONSUMPTION OF MANGANESE DIOXIDE AND MANGANESE METAL IN OCTOBER 1996 1/

(Metric tons, gross weight)

Source	Manganese dioxide				Manganese metal			
	Quantity	Customs value	Year to date		Unwrought		Other	
			Quantity	Customs value	Quantity	Year to date	Quantity	Year to date
Australia	1,070	\$1,450,000	15,900	\$22,500,000	--	--	--	--
Austria	--	--	2	4,080	--	--	--	--
Belgium	55	94,500	867	1,510,000	--	--	--	30
Brazil	--	--	254	349,000	--	--	--	--
Canada	--	--	5	7,940	--	--	(2/)	9
China	--	--	17	19,600	140	840	--	--
France	--	--	--	--	--	--	22	85
Germany	16	78,000	87	403,000	--	--	7	162
Ireland	740	1,040,000	5,690	7,960,000	--	--	--	--
Italy	--	--	--	--	--	--	(2/)	(2/)
Japan	7	21,500	13	37,900	--	--	--	--
Mexico	--	--	4	6,480	--	--	--	--
Russia	--	--	--	--	--	3	--	--
South Africa	191	261,000	439	631,000	812	6,900	--	335
Ukraine	--	--	--	--	--	190	--	--
United Kingdom	15 3/	89,500 3/	375	594,000	--	--	--	152
Total	2,090	3,030,000	23,700	34,000,000	952	7,940	29	773
Total, general imports	2,090	3,030,000	23,800	34,100,000	988	8,380	29	773

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Less than 1/2 unit.

3/ All or part of these data have been referred to the Bureau of the Census for verification.

Note: Imports for consumption of metallic manganese waste and scrap totaled 60 tons, of which 38 tons was from Canada, 20 tons was from Chile, and 2 tons was from Mexico, to give a year to date total of 262 tons.

Source: Bureau of the Census.

TABLE 6  
U.S. EXPORTS OF MANGANESE ORE (20% OR MORE MN), FERROMANGANESE, SILICOMANGANESE, AND MANGANESE METAL BY COUNTRIES OF DESTINATION IN OCTOBER 1996 1/

(Metric tons, gross weight)

	Manganese ore		Ferromanganese, 2% or less C		Silicomanganese		Manganese metal 2/	
	October	Year to date	October	Year to date	October	Year to date	October	Year to date
Australia	--	142	5	5	--	2	--	--
Belgium	--	2,750	--	--	--	--	172	544
Bolivia	--	3	--	--	--	--	--	--
Brazil	--	2,290	--	12	5	9	--	46
Canada	650	5,140	436	4,990	389	4,410	126	861
China	--	5,620	--	--	--	--	--	--
Colombia	--	--	--	31	--	--	--	3
El Salvador	--	354	--	--	--	--	--	--
France	--	1,990	--	94	--	--	5	348
Germany	--	478	--	--	--	--	--	95
Hong Kong	--	--	--	6	--	--	1	4
India	--	153	--	--	--	--	--	41
Indonesia	--	--	--	--	--	--	--	2
Italy	--	1,930	--	--	--	--	--	16
Japan	1,180	2,860	--	--	--	--	18	826
Korea, Republic of	--	519	--	--	--	--	80	215
Mexico	--	130	21	191	29	302	6	278
Netherlands	--	--	--	--	--	141	--	433
Pakistan	--	--	--	--	--	--	(3/)	(3/)
Saudi Arabia	--	--	--	--	--	--	--	1
Sweden	--	3,380	--	--	--	--	51	139
Taiwan	--	--	--	--	--	--	--	51
Trinidad and Tobago	--	159	--	--	--	--	--	--
United Kingdom	--	(3/)	--	--	--	--	18	966
Venezuela	--	--	--	14	--	--	--	--
Total	1,830	27,900	463	5,340	423	4,860	478	4,870

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes manganese-aluminum, some other alloys, and waste and scrap.

3/ Less than 1/2 unit.

Note: Exports of ferromanganese with more than 2% carbon totaled 200 tons, of which 153 tons went to Canada, 44 tons went to Mexico, and 3 tons went to Singapore, to give a year to date total of 2,000 tons.

Source: Bureau of the Census.

TABLE 7  
U.S. FOREIGN TRADE IN SELECTED MANGANESE CHEMICALS IN OCTOBER 1996, BY CLASS 1/

Class	Gross weight (metric tons)	Value 3/ (thousands)	Principal sources and destinations: gross weight (metric tons); value (thousands) 3/	Year to date p/ 2/		
				Gross weight (metric tons)	Value 3/ (thousands)	Principal sources and destinations: gross weight (metric tons); value (thousands) 3/
Imports for consumption:						
Manganese oxides other than dioxide	81	\$88	Norway 60; \$55	892	\$2,130	Japan 351; \$1,070
Sulfates, basket category, including manganese sulfate	2,990	1,630	Mexico 1,600; \$750	23,700	13,300	Mexico 15,300; \$7,190
Potassium permanganate	168	335	Czech Republic 72; \$136	1,230	2,440	Czech Republic 558; \$1,060
Manganites, manganates, and other permanganates	13	46	Canada 13; \$46	27	89	Canada 27; \$83
Exports:						
Manganese dioxide	214	196	Canada 99; \$45	2,880	3,140	Canada 1,450; \$644
Manganese oxides other than dioxide	1,020	901	Canada 450; \$206	6,930	7,430	Canada 2,920; \$1,310
Sulfates, basket category, including manganese sulfate	1,590	965	Canada 1,240; \$426	18,200	11,500	Canada 14,800; \$5,030
Potassium permanganate	18	42	Canada 13; \$26	437	1,020	Germany 199; \$450
Manganites, manganates, and other permanganates	16	94	Mexico 5; \$11	172	913	Germany 79; \$369

p/ Preliminary.

1/ Data are rounded to three significant digits.

2/ May include revisions to previous months' data.

3/ For imports, Customs value; for exports, f.a.s. value.

Source: Bureau of the Census.

TABLE 8  
U.S. CONSUMPTION, BY END USE, AND INDUSTRY STOCKS OF  
MANGANESE FERROALLOYS AND METAL IN JULY THROUGH SEPTEMBER 1996 1/

(Metric tons, gross weight)

End use	Ferromanganese			Silico- manganese	Manganese metal
	High carbon	Medium and low carbon	Total		
Steel:					
Carbon	41,800	15,600	57,300	18,600	442
Stainless and heat-resisting	2,970	(2/)	2,970	1,310	444
Full alloy	4,680	1,160	5,840	6,210	(3/)
High-strength, low-alloy	4,700	1,040	5,740	1,890	(3/)
Unspecified 4/	94	(2/)	94	57	74
Total steel	54,200	17,800	72,000	28,000	960
Cast irons	1,420	108	1,530	92	--
Superalloys	(2/)	--	(2/)	--	32
Alloys (excluding alloy steels and superalloys)	(2/)	(2/)	(2/)	W	4,220
Miscellaneous and unspecified	130	58	188	W	(5/)
Total consumption, end of period	55,800	17,900	73,700	28,100	5,210
Average daily consumption rate, tons per day	606	194	801	311	56
Total consumption, year to date	175,000	58,300	233,000	90,500 6/	15,600
Stocks, September 30:					
consumers and producers	19,500	11,800	31,300	7,090	3,700

W Withheld to avoid disclosing company proprietary data.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Withheld to avoid disclosing company proprietary data; included in "Miscellaneous and unspecified."

3/ Withheld to avoid disclosing company proprietary data; included in "Steel: Unspecified."

4/ Includes electrical and tool steel, and items indicated by (3/).

5/ Withheld to avoid disclosing company proprietary data; included in "Alloys (excluding alloy steels and superalloys)."

6/ Internal evaluation indicates that silicomanganese consumption is considerably understated.